

1 **IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

2
3 Date: September 18, 2008

4
5 In re application of:

6 **Kelkar et al**

7 Serial No.: 10/629,448

8 Filed: July 29, 2003

9 Group Art Unit: 1631

10 Examiner: **Loria Clow**

11 **FOR: Method and Program**

12 **Product for Discovering**

13 **Similar Gene Expression Profiles**

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Signature

18 SEPTEMBER 2008
Date of Signature

14
15
16 **REPLY BRIEF**

17
18 Assistant Commissioner for Patents

19 Washington DC 20231

20
21 Sir:

22
23 Appellants herewith submit a Reply Brief in support of the
24 appeal to the Board of Patent Appeals and Interferences from the
25 decision dated May 16, 2007 of the Primary Examiner finally
26 rejecting claims 1-6, 10-16 and 20, and from the Examiners
27 assertions contained in the Examiners Answer.

(B) Status of Claims

Claims 1-6, 10-16 and 20 are pending in this application.

Claims 7-9 and 17-19 were canceled after restriction.

Issue I, The rejection of claims 1, 2, 4, 6, 12, 14, 16 and 20 under 35 U.S.C. 112 has been withdrawn from appeal by the Examiner

Issue II, The rejection of claims 1-6, 10-16 and 20 under 35 U.S.C. 101 is appealed.

1 **(C) Grounds of Rejection to be reviewed on Appeal**
2

3 Claims 1-6, 10-16 and 20 are pending in this application.
4

5 The rejection of claims 1-6, 10-16 and 20 under 35
6 U.S.C. 101 is appealed.
7

8 The remaining issue in this appeal is:
9

10 II. Whether output to a user is a required claim step in order to
11 define an invention, that is a practical application which is
12 useful, concrete and tangible.
13

14 Claim 10 is representative of claims 1-6, 10-16 and 20 which
15 have been rejected under 35 U.S.C. 101 and is related to Issue II.
16
17

1 **(D) Argument**

2
3 **Issue II:** Whether output to a user is a required claim step in
4 order to define an invention, that is a practical application
5 which is useful, concrete and tangible.
6

7 Appellants claim in representative claim 10:

8 10. A program product having computer readable code stored on
9 a recordable media for determining similarity between portions of
10 gene expression profiles comprising:

11 programmed means for processing a number of gene expression
12 profiles with a similar sequences algorithm that is a time and
13 intensity invariant correlation function to obtain a data set of
14 gene expression pairs and a match fraction for each pair; **Page**

15 **7,Line 31-Page 8,Line 9 (Paragraph 36) and Fig. 1, # 213, 215**

16 programmed means for listing gene expression pairs in
17 clusters by their match fractions; **Page 8 Lines 16-26 (paragraph**
18 **38) and Fig.2 # 223**

19 programmed means for removing a first gene from a cluster
20 when the first gene is also in another cluster which has another
21 gene with a higher match fraction with the first gene than any of
22 the genes in the cluster have with the first gene; **Page 8 Line 27-**
23 **Page 9 Line 7 (paragraph 39) and Fig. 2 # 225**

24 programmed means for repeating the removing step until all
25 genes are listed in only one cluster. **Page 8 Line 27-Page 9 Line 7**
26 **(Paragraph 39) last sentence**
27
28

1 These remarks are in reply to the Examiners "Response to Argument"

2
3 **A.** The Examiner faults applicants' attorney for stating that:

4 "Applicants believe that the specification and claims indeed
5 do describe a method and a program product that produce a result
6 that has substantial and credible utility as required by MPEP 2107
7 II and that the claims are limited to a narrow practical
8 application in a computer related art." The Examiner asserts that
9 the claims are rejected under MPEP 2106 and not 2107.

10
11 Applicants' attorney is pointing out via the criticized paragraph
12 that the result provided by applicants' invention is not merely
13 abstract but provides a real world result in the art of computers.
14 Applicants are not arguing that the rejection is based on MPEP
15 2107. It is believed that the rejection is based on 35 U.S.C.
16 101.

17
18 However, the Examiner did quote the MPEP 2107 language, faulted
19 above, in the first Office Action on page 4 last paragraph and
20 applicants have not seen any indication of this quote being
21 withdrawn by the Examiner. Accordingly applicants' mention of
22 MPEP 2107 in the Third Amended Appeal Brief is not improper.

23
24 Applicants' entire continuing argument is addressed directly to
25 the Examiners interpretation of the words useful, concrete and
26 tangible which is the language of MPEP 2106.

27
28 The Examiner asserts that:

29 "As set forth in MPEP 2106 regarding patent subject matter
30 eligibility, the claimed invention as a whole must be useful and
31 accomplish a practical application. That is, it must produce a

1 'useful, concrete **and** tangible result' (emphasis added)) State
2 Street Bank and Trust ...)."

3
4 Applicants' attorney has not found such emphasis, which the
5 Examiner adds, to have been added by any court and therefore
6 objects to such interpretation of the quoted language.
7 Applicants' requests for a citation to a court decision supporting
8 the Examiners added emphasis has been ignored.

9
10 The Examiner, in the Examiners Answer, then goes on to mix "real
11 world value" of Gottschalk v. Benson and "starting point for
12 future research", citing Brenner v. Manson, In re Fischer and In
13 re Ziegler. It is believed that this assertion is also based on
14 35 U.S.C. 101 and is believed to be without merit.

15
16 Applicants have not invented a genomic subsequence, an expressed
17 sequence tag (EST) or a compound having value only in further
18 research. Applicants have disclosed and claimed a computer method
19 and article of manufacture that is fully complete and provides a
20 result that is not abstract but is "useful, concrete and tangible"
21 as required by Alappat and cases that follow Alappat. Accordingly
22 the Examiners assertion is misplaced.

23
24 Regarding claims 10-16, the Examiner raises, for the first time in
25 the Examiners Answer, an assertion that the claim limitation
26 "stored on a recordable medium" reads on "carrier wave storage"
27 allegedly described by applicants at page 7 and then cites In re
28 Nuijten; CAFC 2006-1371. This is believed to be a continued
29 rejection under 35 U.S.C. 101.

30
31 Page 7 of applicants' specification does describe "These programs
32 are contained in media 55 such as a diskette or compact disc or

1 they are part of a communication signal received at a modem or
2 other communications connection version of media 55."

3 Applicants' specification does not say "carrier wave storage"
4 which is a novel creation of the Examiner and not contemplated by
5 applicants. One stores programs in a memory which may be solid
6 state circuits, optical or magnetic discs. Programs may be
7 transmitted to a memory in a computer by a communications
8 connection as applicants' specification states but "carrier wave
9 storage" is not real world and is not being claimed by applicant.

10
11 Since applicants' claims recite "**stored on a recordable media**"
12 which is not mentioned or decided by Nuijten, it is believed that
13 this belated assertion is without merit.

14
15 **B.** The Examiner is not persuaded by applicants' recitation of
16 MPEP 1206 and Gottshalk v. Benson and Warmerdam. However the
17 Examiner still has not cited any court decision supporting the
18 bold emphasis of the word **and** in "useful, concrete and tangible"
19 as it is interpreted by the Examiner to be a multi-prong test.
20 Accordingly the Examiners interpretation of the MPEP does not
21 appear to be based on current law.

22
23 **C.** The Examiner is not persuaded by the evidence provided in U.S.
24 Patents 6,406,853 and 6,436,642 of the usefulness of methods for
25 finding similar gene expression profiles. The Examiner asserts
26 that the claims of 6,406,853 comprise physical transformation.

27
28 The merits of these patents may not be relevant to applicants'
29 invention but the relevant law clearly should be uniformly applied
30 to all inventions.

1 These patents were not cited to compare their claim language with
2 applicants' claim language but to show the non abstract nature of
3 applicants' invention as claimed. However the claims of
4 6,436,642, not mentioned by the Examiner, are interesting in that
5 they describe no output to a user and no physical transformation.
6 However the subject matter being claimed in U.S. 6,436,642 is
7 clearly useful and not abstract.

8
9 Applicants again question whether the Examiner has complied with
10 MPEP 2106 II by "determining what applicants have invented and are
11 seeking to patent" by a complete examination including a search of
12 the prior art.

13
14 All of the prior art of record in this application has been cited
15 by applicants.

16
17 Evidence of this lack of a complete examination by the Examiner
18 appears in:

19 the belated need by the Examiner to withdraw the rejection
20 under 35 USC 112, 2nd paragraph;

21 the belated new assertion regarding "starting point for
22 future research", citing Brenner v. Manson, In re Fischer and In
23 re Ziegler, and finally;

24 the belated new assertion that applicants' claims read on
25 "carrier wave storage" which is a novel creation of the Examiner
26 and not contemplated by applicants nor is it described in
27 applicants' specification regardless of the Examiners assertion.

28
29 It is believed that an early thorough reading of applicants'
30 specification and a search of the prior art would have removed
31 these new assertions and the 112 rejection and would have allowed
32 the Examiner to reach the merits of applicants' invention.

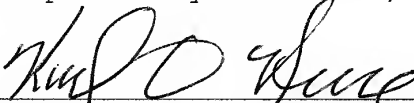
1 The above comments in reply to the Examiners Answer are not
2 intended to replace the full discussion in applicants' Appeal
3 Brief but merely to point out a few examples of what applicants
4 believe are the Examiners misinterpretation of applicants'
5 teachings and arguments and the Examiners misinterpretation of the
6 applicable law and the MPEP.

7
8 Accordingly it is believed that the claims are clear,
9 statutory and definite and are drawn to a novel and unobvious
10 method and program product for clustering gene expression profiles
11 which result is concrete, tangible and directly useful in drug
12 selection and disease diagnosis.

13
14 **Request for Relief**
15

16 Wherefore, Appellants respectfully request that the rejection
17 of pending claims 1 - 6, 10 - 16 and 20 be reversed.
18

19 Respectfully submitted,

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22

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